

KS5 – Year 13 – A Level Further Mathematics

Term	Topic Titles	Brief Overview
1	Complex numbers: DeMoivre's Theorem and series	Applying DeMoivre's Theorem to complex numbers and exploring series expansions.
	Chi-squared testing (geometric)	Performing chi-squared tests with data following geometric distributions.
	Series method of differences and MacLaurin Series	Using method of differences and MacLaurin series to solve problems.
	Differentiation (Year 13 maths)	Advanced techniques and applications of differentiation learned in Year 13.
	Probability generating functions	Using generating functions to solve problems involving probability distributions.
	Methods in calculus	Advanced calculus techniques for solving complex mathematical problems.
	Quality of tests	Assessing the quality and reliability of statistical tests.
	Volumes of Revolution	Advanced methods for calculating volumes of solids formed by rotating a region around an axis.
	Central limit theorem	Understanding the central limit theorem and its implications in probability and statistics.
Momentum and impulse	Advanced study of momentum and impulse in various contexts.	
2	Polar coordinates	Representing and analysing points in the plane using polar coordinates.
	Elastic strings and springs	Studying the behavior and properties of elastic strings and springs.
	Hyperbolic functions	Understanding and applying hyperbolic functions and their properties.
	Elastic collisions in two dimensions	Analysing two-dimensional collisions where kinetic energy is conserved.
	Methods in differential equations	Advanced techniques for solving differential equations.

	Modelling with differential equations	Using differential equations to model and solve real-world problems.
3	Revision of all modules	Reviewing and consolidating knowledge from all modules covered in the course.